PHILIPS

PHILIPS

Philips DC777
CASSETTE RECEIVER

Philips DC 777

MC-Service

Operating instructions
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Gebruiksaanwijzing
Istruzioni d'uso
Instrucciones de manejo
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Bruksanvisning
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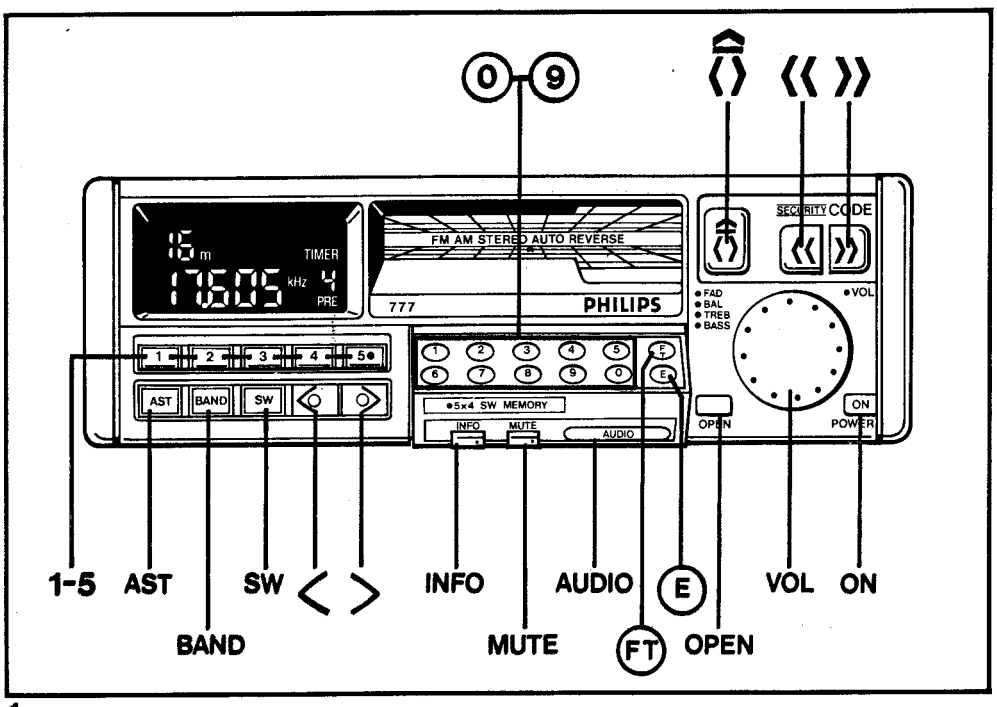
Philips Car Stereo

BP93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SECURITY CODE
FM AM STEREO AUTO REVERSE
PHILIPS
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TREB
BASS
VOL
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AST
BAND
SW
5x4 SW MEMORY
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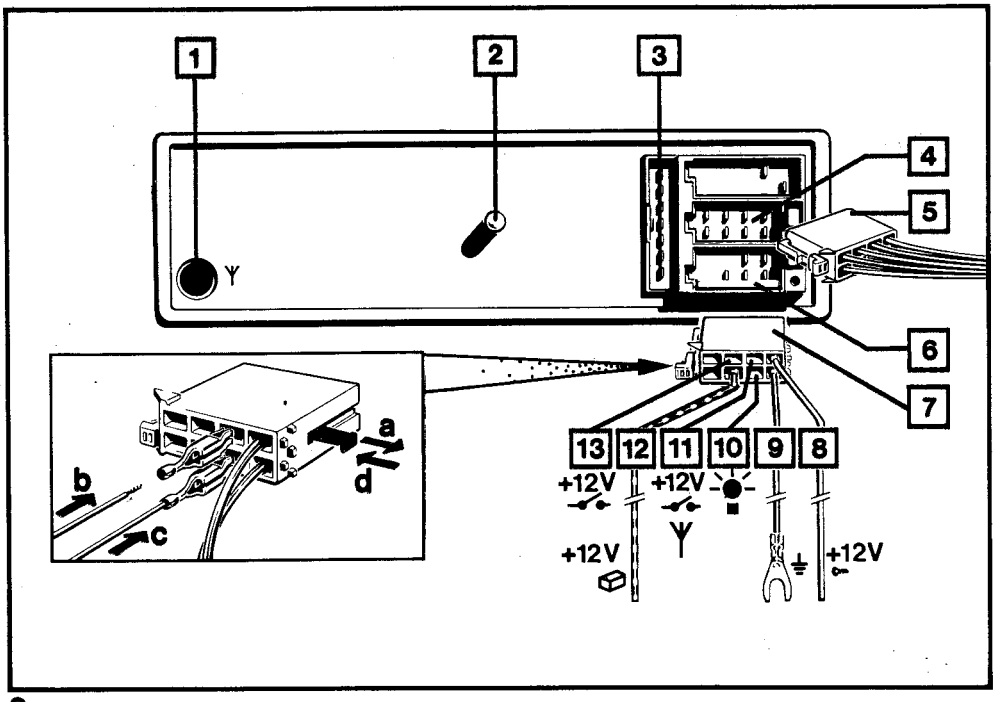
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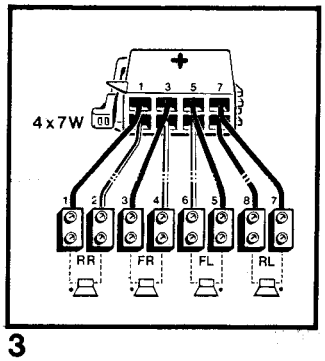

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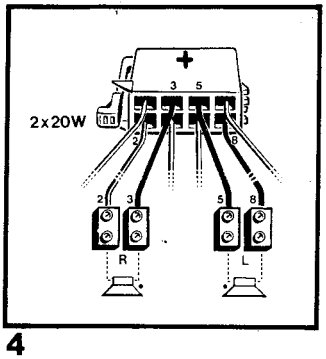

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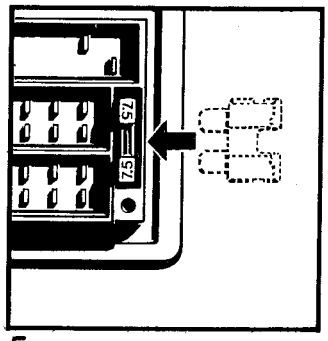

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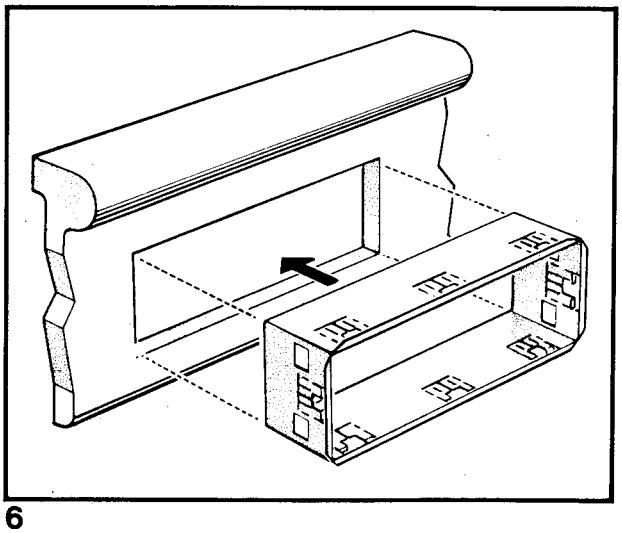

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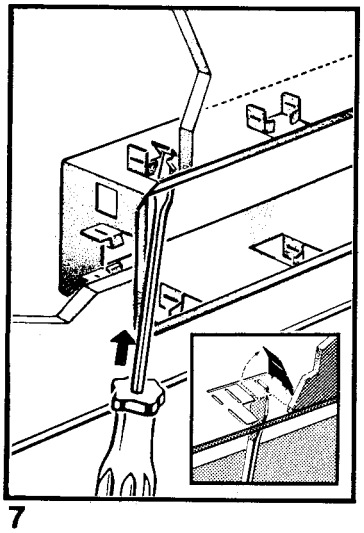

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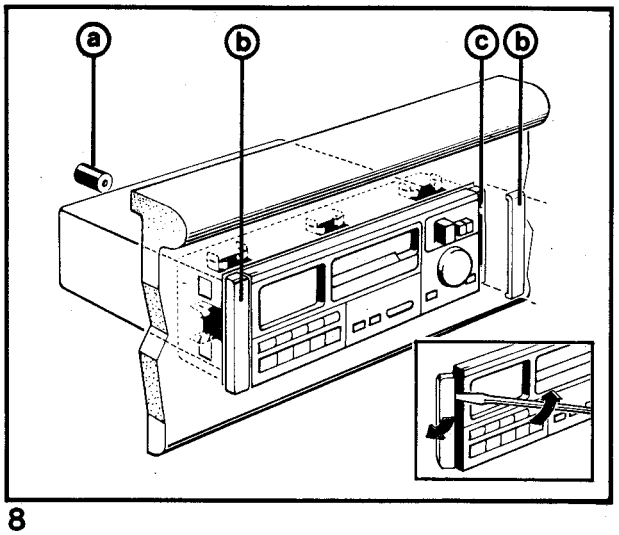

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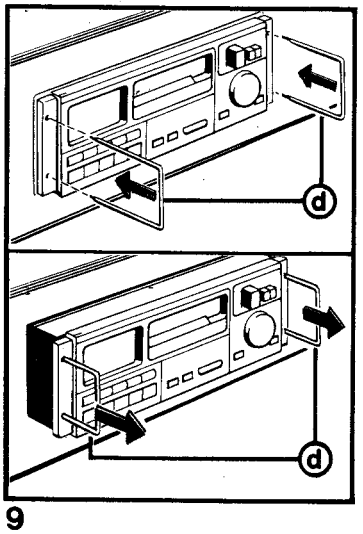

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Refer to Fig. 1 on page 3 while reading these instructions.

• Be careful not to damage the digital display by pushing or rubbing it!

SUMMARY OF CONTROLS

1 – 5	Preset buttons (button 5 acts as a preset location switch on SW)
AST	Auto-Store button (FM and MW only)
BAND	Waveband selector (FM - LW - MW)
SW	Short-wave band selector
<	Search/manual tuning downwards button
>	Search/manual tuning upwards button
INFO	INFO button for traffic information
MUTE	Mute button for muting the radio/cassette player (apart from traffic information if INFO is activated)
AUDIO	Audio mode (Fader/Balance/Treble/Bass) selector
OPEN *	Door open button
VOL	Volume control; also to adjust the Fader, Balance, Treble and Bass
ON	On/off switch
⏏/❮	Eject cassette / Reverse tape direction button
« and »	Fast wind buttons *Fast forward wind or rewind depends on the current play direction shown on the display.*

* Press the OPEN button to access the following controls on the keyboard:

⓪–⑨	Digit buttons – for direct entry of frequency, time and Security Code. Buttons ①–③ are also used for the timer.
ⓕⓣ	Frequency/Time selector
ⓔ	Enter button

ON/OFF

• Press the ON button to switch on the radio. The display lights up.

• To switch off the radio, press the ON button again.

SOUND ADJUSTMENT

Volume, fader (front/rear control), balance, treble and bass are adjusted using the large rotary knob.
The normal function of this knob is volume. However, if you first press the AUDIO selector one or more times, the function of the large knob changes to fader, balance, treble or bass. The desired adjustment can then be made.
About 10 seconds later, the function of the large knob automatically returns to volume. Alternatively, you can return to volume control immediately, by keeping the AUDIO selector pressed for about 2 seconds.

The bass and treble settings for FM, FM INFO (DK), AM (MW & LW & SW) and for cassette operation are stored independently so you can set your own preferences.

While driving it is recommended to use the large knob only as volume control.

VOLUME

• Adjust the volume with the large rotary knob.

FADER

- Press the AUDIO selector as many times as necessary until the display shows 'FAD'. **
- Adjust the fader setting by turning the large knob.

Note: If only 2 loudspeakers are connected, the display shows 'OFF'.

BALANCE

- Press the AUDIO selector as many times as necessary until the display shows 'BAL'. **
- Adjust the balance by turning the large knob.

TREBLE

- Press the AUDIO selector as many times as necessary until the display shows 'HI'. **
- Adjust the treble by turning the large knob.

Note: When listening to short-wave transmissions it is advisable to set the treble to minimum to reduce background noise and whistles.

BASS

- Press the AUDIO selector as many times as necessary until the display shows 'LO'. **
- Adjust the bass by turning the large knob.

*** If the large knob is not operated within 10 seconds its function returns to that of volume control and the display returns to its previous reading.*

MUTING THE SOUND

- If you want to temporarily silence the radio or cassette playback, press the MUTE button.

The set mutes and the display shows 'MUTE'.

- To continue listening to the radio or cassette, press the MUTE button again.

The sound returns at the same level and 'MUTE' disappears from the display.

Pressing any radio button cancels the mute mode.

Note: The silent period may be interrupted by traffic messages (if INFO is switched on) or by a timer station.

RADIO RECEPTION

WAVEBANDS

FM	VHF/FM	87.5 – 108 MHz
LW	Long Wave	144 – 288 kHz
MW	Medium Wave	531 – 1629 kHz
SW	Short Wave	3170 – 21910 kHz

Short-wave bands

90 m	3200 – 3400 kHz
75 m	3950 – 4000 kHz
60 m	4750 – 5060 kHz
49 m	5950 – 6200 kHz
41 m	7100 – 7300 kHz
31 m	9500 – 9900 kHz
25 m	11650 – 12050 kHz
21 m	13600 – 13800 kHz
19 m	15100 – 15600 kHz
16 m	17550 – 17900 kHz
13 m	21450 – 21850 kHz

- To select FM, LW or MW, press the BAND selector one or more times.
- To select a short-wave band, press the SW button one or more times.

The display indicates the selected waveband.

TUNING TO A STATION

You can tune to a radio station using any of the following methods:

Search tuning
Manual tuning
Auto-Store (on FM and MW only)
Direct entry of frequency
Recalling a preset station

Note: If you want to tune to a frequency **between** the metre bands on SW, use 'manual tuning' or 'direct entry of frequency'.

SEARCH TUNING

You can quickly search for a station upwards or downwards in frequency.

- Select the desired waveband with the BAND selector or SW selector.
- Briefly press the < or the > button.

You will receive a station after a short time.

- Press the same button again.

You will receive the next station in the direction of the search.

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– The waveband is scanned in steps of 0.05 MHz for FM, 9 kHz for MW and 1 kHz for LW and SW.

– When the highest frequency (e.g. for FM: 108 MHz) is reached the tuning switches automatically to the lowest frequency (for FM: 87.5 MHz) and vice versa.

– Search tuning occurs on different 'sensitivity levels' (except on SW). First the radio searches for strong stations. If no station is found after the whole waveband has been scanned, the radio will search for less-strong stations. If again no station is found, the radio will search for weak stations.

– On SW, search tuning remains **within** the selected metre-band (and on one sensitivity level).

– If one of the tuning buttons is operated again after approximately 1 minute the radio starts searching for strong stations once more.

– If the radio tunes to a station which has been stored on one of the presets, the display will also show the relevant preset number (except on SW).

– In the INFO mode the radio will only search for INFO stations.

MANUAL TUNING

Manual tuning is useful if you want to tune to a weak station or you know the frequency of the required station.

- Select the desired waveband with the BAND selector or SW selector.
- Switch from search tuning mode to manual tuning mode by pressing **both** < and > buttons at the same time until you hear a beep.
- Press the < or > button.

– Keeping the button pressed changes the frequency quickly.

– Briefly pressing the button changes the frequency by one step (0.05 MHz on FM or 1 kHz on MW, LW and SW).

Note: The < and > buttons return to **search tuning** mode after:
- they are out of use for approximately 1 minute;
- the radio is switched off and on again; or
- the BAND selector, the SW selector, one of the preset buttons or the AST button is operated.

Note: During manual tuning the INFO mode is switched off.

AUTO-STORE *(on FM and MW only)*

Auto-Store is an automatic search tuning system which stores the five strongest stations on the presets 1 – 5.

If you have already stored your favourite FM and MW stations on the presets, these are not erased if you use Auto-Store! (You can receive any of these stations by pressing the BAND selector once and then the required preset.)

Storing stations

a Select FM or MW with the BAND selector.

b Keep the AST button pressed until you hear a beep.

If LW or SW is selected the radio gives a warning tone to indicate an error.

The radio mutes, the display shows 'AST' flashing and the frequency indication disappears.
The selected waveband is scanned and the five strongest stations are automatically stored on the five presets.
The radio gives a beep when it has finished storing the stations.

The radio then switches to the Auto-Store station on preset 1.

- You can select the Auto-Store stations with the presets 1 – 5.
The display shows the frequency and the Auto-Store preset number.

- If desired, you can also use Auto-Store for the other waveband (FM or MW) by repeating steps ***a*** and ***b*** above.

Recalling Auto-Store stations

a Select FM or MW with the BAND selector.
b Briefly press the AST button.
The display shows 'AST'.
c Select Auto-Store stations using the presets 1 – 5.

- To leave the Auto-Store mode, press the BAND selector.
The 'AST' indication goes out and the radio returns to normal operation on the current waveband.

Notes:

– If under certain circumstances it is not possible for the radio to find five stations, the remaining presets (e.g. 4 and 5) are programmed with '0000'. If you later select such a preset the radio will mute.

– If one of the stations is not desired (e.g. preset 4 has the same programme as preset 2), you can store the next strongest station by keeping the preset with the unwanted station pressed until the 'AST' indication starts flashing. You will hear a beep, indicating that a new station has been stored on this preset.

– If a station with traffic information is found, the INFO mode is stored automatically. (See 'TRAFFIC INFORMATION'.)

TRANSFERRING AN AUTO-STORE STATION TO A NORMAL FM OR MW PRESET

- Recall the Auto-Store station.
- Briefly press **both** tuning buttons < and > simultaneously. The preset number disappears, but the frequency displayed does not change.
- Keep the required preset button pressed until you hear a beep.

The station is stored under the selected preset and the radio switches to normal operation on the current waveband.

DIRECT ENTRY OF FREQUENCY

This is the quickest way of tuning if you know the frequency of the required station.

- Select the desired waveband with the BAND selector or SW selector.
- Type-in the desired frequency using the ⓪–⑨ digit buttons on the keyboard.
- Press the Ⓔ button.

The radio tunes to the selected frequency.

If an incorrect frequency for the current waveband is entered the radio gives an error beep and the display shows '0000'.

Examples:

For FM 89.0, type in ⑧ ⑨ ⓪ ⓪ Ⓔ
For FM 103.05, type in ① ⓪ ③ ⓪ ⑤ Ⓔ
For MW 1440, type in ① ④ ④ ⓪ Ⓔ
For LW 198, type in ① ⑨ ⑧ Ⓔ
For SW 12000, type in ① ② ⓪ ⓪ ⓪ Ⓔ

PRESETS

You can store your favourite stations on **each** waveband on the preset buttons 1 – 5.
For short wave, see 'SHORT-WAVE PRESETS'.

Storing stations

Note: On FM the INFO mode may be stored simultaneously with a frequency if it is switched on before storing the station (see 'TRAFFIC INFORMATION').

a Select the desired waveband with the BAND selector.
b Tune-in the desired station using the < and/or > buttons, or ⓪–⑨ digit buttons on the keyboard.
c Keep the desired preset (e.g. 1) pressed until a beep indicates that the frequency has been stored.

The display shows: the waveband, the frequency and the preset number on which the station has been stored.

Note: If the preset button is pressed for less than 2 seconds you recall the frequency stored previously.

- You can store stations on the remaining presets in the same way.
- You can also store stations for the other wavebands in the same way.

Recalling stations

a Select the desired waveband with the BAND selector.
b Briefly press the relevant preset 1 – 5.

Transferring a station from one preset to another (e.g. 1 to 3)

- Select the station to be transferred with the preset buttons 1 – 5.
- Press **both** tuning buttons < and > at the same time.

The preset indication disappears from the display.

- Keep the preset on which you want to store the station pressed until you hear a beep.

The station is now stored on this preset.

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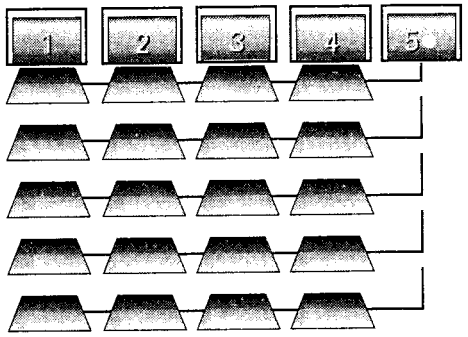
SHORT-WAVE PRESETS

Note: If you experience a lot of interference while listening to SW, it is advisable to set the treble to minimum.

On short-wave it is possible to store **up to 5** frequencies under **each** of the preset buttons 1 – 4 giving 20 possible 'locations'. This is achieved by using preset 5 to switch between the different locations on each preset button.
It is therefore **not** possible to store a short-wave station on preset 5.

This is useful if you listen to a short-wave station transmitted on alternative frequencies at different times of day. These alternative frequencies can be stored under the other locations of the same preset button.

If you select a preset with no frequencies stored, the radio will mute and the display shows '0000'.



Storing a short-wave station

- Select the required preset location with presets 1 – 4 and location switch 5.
- Tune to the desired frequency.
- Press the required preset 1 – 4 until you hear a beep.

The frequency is now stored under the selected location.

Clearing a short-wave location

- Select the required preset location with presets 1 – 4 and location switch 5.
- Press the ⓪ digit button on the keyboard.
- Press the Ⓔ button.

The radio gives a beep and then mutes. The display shows '0000'.

- Keep the required preset button (1 – 4) pressed until you hear a beep.

The location is now cleared.

MONO/STEREO RECEPTION ON FM

When selecting the FM band the radio is always in the stereo **mode**. However, the display shows 'STEREO' only when a stereo **signal** is received.

If the stereo signal decreases, the radio changes automatically and smoothly to mono reproduction.
If the stereo signal increases again, the receiver changes to stereo reproduction once more.

TRAFFIC INFORMATION (on FM only)

Important: The INFO button should **only** be used in countries where traffic information is broadcast according to the SK/DK system, otherwise normal reception of FM stations is not possible.

This car radio can identify FM stations which broadcast traffic information on the SK/DK traffic system. This enables you to easily tune to a station which broadcasts traffic information. If you wish, you can mute the sound of the radio apart from traffic messages, or allow traffic messages to interrupt cassette playback.

If the currently-tuned station broadcasts SK/DK traffic information, 'SK' lights on the display.

TUNING TO A TRAFFIC INFORMATION STATION

• To tune in to a station which broadcasts traffic messages, press the INFO button.

The radio is now in the **INFO mode**. The display shows 'INFO'.

The display shows 'SK' only if the currently-tuned station broadcasts traffic information.

If the radio is **not** tuned to a traffic information station, you will hear a warning tone and the radio will automatically search for a station which does broadcast traffic information.

– If you are tuned to a station which becomes too weak, or if the broadcaster temporarily switches off the SK signal, the radio will start searching for another traffic information station. This is indicated by a warning tone. You will then hear a new station.

– If the radio is in the INFO mode and you tune to another station using manual tuning, you will hear repetitive beeps for approx. 1 minute.

If no traffic information station can be found, the warning tone will be repeated every 30 seconds.

• You can stop these warning tones by pressing the INFO button to switch off the INFO mode.

Note: If the radio is in the INFO mode before storing an FM station, the INFO mode will also be stored. Later when selecting this FM preset, you need not press the INFO button again.

RECEIVING TRAFFIC INFORMATION ONLY

• If the radio is in the INFO mode and you want to receive traffic information only, press the MUTE button.

The radio mutes. The display shows 'MUTE', 'SK' and 'INFO'.

– When a traffic message is broadcast, the radio will automatically switch to the previously adjusted sound level. After the message the radio mutes again.

• To return to normal radio reception, press the MUTE button once more.

'MUTE' disappears from the display.

Note: Pressing any radio button also switches off the mute mode.

TRAFFIC INFORMATION DURING CASSETTE PLAYBACK

If the radio is in the INFO mode and you play a cassette, playback will be interrupted by traffic messages when broadcast.

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CLOCK

This radio incorporates a clock. You can use this for displaying the time or as a timer (see below). To enable the clock to function, the permanent 12 V supply must be connected during installation (see Mounting Instructions).

SETTING THE CLOCK

- If necessary press the (FT) selector on the keyboard to display the time.
- Keep the (FT) selector pressed until a beep is heard and the time flashes on the display.
- Type in the correct time (in 24-hour form) using the (0)–(9) digit buttons.
- Press the (E) button.

The radio beeps and the time stops flashing to indicate that the clock is set.

The display returns to its previous reading as soon as you press (FT) selector or any other button (apart from the digit buttons).

DISPLAYING THE TIME

- Press the (FT) selector on the keyboard.

The time is displayed.

The display returns to its previous reading as soon as you press (FT) selector or any other button (apart from the digit buttons).

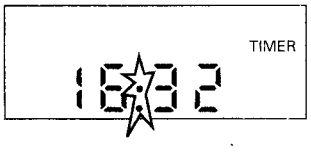
TIMERS

This radio incorporates **three** timers. This means you can program the radio to automatically tune-in up to three different stations every day at different times.

Before using the timers first check that the clock is set to the correct time!

PROGRAMMING A TIMER

- Press the (FT) selector to display the current time.



- Select the timer you want to program by keeping the corresponding digit button (1)–(3) pressed until 'TIMER' flashes on the display.

The display shows the selected timer number and its current setting.

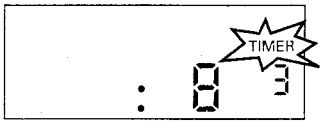
' :0' is displayed if this timer is not programmed at present.

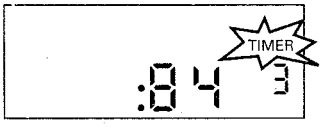
Note: In the timer-programming mode the AUDIO button is not operational.

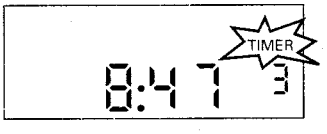
Setting the time:

- **If** the time displayed is the desired start-time just press the (E) button.

If not, type-in the required start-time using the (0)–(9) digit buttons and then press the (E) button. For example, for 8:47, type-in (8) (4) (7) (E).







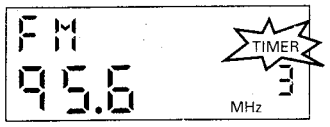
An incorrect time entry will result in an error beep being heard. The radio will then wait for you to enter the correct time.

Setting the frequency of the radio station:

The display now shows the waveband and frequency of the currently-tuned station. (Note that this is **not** the current setting for the selected timer!)

- Press the (FT) selector.

The radio retunes to the current frequency setting for the selected timer.

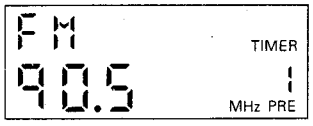


- To change this setting:
  - Select the desired waveband with the BAND selector or SW selector.
  - Tune to the required frequency by: direct entry of frequency, manual tuning or recalling a preset.

  If an invalid frequency is entered (via the keyboard) the radio waits for you to enter a valid frequency.
- Press the (E) button to program the frequency.

The display shows 'TIMER' to show that one (or more) of the timers is active.

You are now out of the timer programming mode. The radio retunes to the radio station on the last-selected preset on the current waveband.



Providing the radio is switched on, the frequency programmed will be automatically tuned-in at the selected time.

The timer station will interrupt the following:
- listening to a station on another frequency;
- mute mode;
- cassette playback.

The timer station will **not** be tuned-in if the radio is in the INFO mode.

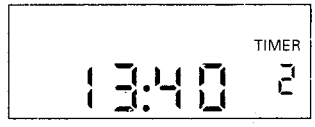
If cassette playback has been interrupted by a timer station, you can return to cassette playback by ejecting and reinserting the cassette.

If you have programmed the same start-time on more than one timer, only the frequency of the **lowest** timer number (1 or 2) will be tuned-in.

CHECKING A TIMER

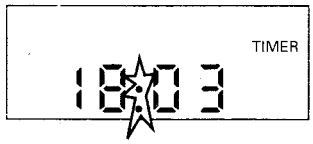
This feature allows you to quickly view the current settings of a timer. The start-time and frequency setting will be displayed one after another.
- Press the (FT) selector to display the current time.
- Select the timer you want to check by briefly pressing the corresponding digit button ①–③. The radio gives a beep.

– The display shows 'TIMER' and the selected timer number.
– The time setting is displayed for about 4 seconds.



' :0' is displayed if this timer is not programmed.
– The frequency setting is then displayed for 4 seconds. Note that the radio does **not** let you hear the station on this frequency during the checking period!

The display then returns to the current time indication.



Note: If at any time during the checking of the timer one of the radio buttons is pressed, the checking mode is terminated. The radio returns to the currently-tuned frequency.

SWITCHING OFF A TIMER

- Press the (FT) selector to display the current time.
- Select the timer you want to switch off by keeping the corresponding digit button ①–③ pressed until 'TIMER' flashes on the display.

The display shows the selected timer number and its current setting.
- Press the (0) digit button.
- Press the (E) button.

This timer is now switched off. The radio retunes to the radio station on the last-selected preset on the current waveband.

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CASSETTE PLAYER

- *Only use good quality cassettes.*
- *It is highly recommended to use only C-60 and C-90 cassettes.*

PLAYBACK

• Slide the cassette, with the open side to the right, into the cassette opening.

The radio is muted and playback starts. The display shows 'CAS' and an arrow indicating the direction of play.

At the end of the tape, playback will automatically continue in the reverse direction. The direction of play shown on the display will change.

CASSETTE EJECT

• Eject the cassette by pressing the ⏏/❮❯ button **fully** home. Now take out the cassette.

'CAS' and the direction of play indication disappear from the display. The set switches to radio reception.

REVERSE

• To change the direction of play before the end of the tape, press the ⏏/❮❯ button **half-way** in.

The direction of play shown on the display changes.

FAST WINDING

The direction of fast winding depends on the current direction of play indicated on the display.

• To **fast forward wind** press either the ❯❯ or ❮❮ button into the locked position. The arrows on the button must **correspond** to the arrow indication during playback.

During fast winding you hear the radio. Both tape direction arrows flash on the display.

At the end of the tape, the player automatically reverses the tape direction and playback starts in the opposite direction. The tape direction on the display changes.

• To **fast rewind** press either the ❮❮ or ❯❯ button into the locked position. The arrows on the button must be **opposite** to the arrow indication during playback.

During fast rewinding you hear the radio. Both tape direction arrows flash on the display.

At the beginning of the tape, playback starts again.

TO STOP FAST WINDING

• To stop fast forward wind or rewind before the end of the tape, slightly press the other fast wind button (❮❮ or ❯❯).

Playback is resumed.

INTERRUPTING PLAYBACK

• To interrupt cassette playback for a short while, press the MUTE button.

The display shows 'MUTE'.

• Press the MUTE button again to continue playback.

Note: The silent period may be interrupted by traffic messages (if INFO is switched on) or by a timer station.

MAINTENANCE

After extended use of the cassette player, dust, contamination or grime can accumulate on the playback head. This results in diminishing high-note reproduction. In the case of severe contamination, reproduction of one or both channels may totally fail.

This can be remedied using a cleaning cassette at regular intervals (once or twice a month) and playing it through like an ordinary cassette.

CASSETTE STORAGE

Put the cassettes back in their boxes immediately after use to protect them from dust or dirt and to prevent the tape from unwinding.

Never expose cassettes to heat or direct sunlight.

SECURITY CODE

Important: If you have not mounted the radio yourself, make sure that you come into possession of its 'passport'. This 'passport' is fixed on the radio housing upon delivery.

INTRODUCTION

To reduce the risk of theft, the factory has provided your car radio with a specific four-figure Security Code.
The Security Code and the radio's identification number (which is also cut into the side of the housing) are both stated on the 'passport' supplied with the radio.
Keep the 'passport' in a safe place, for example with your car documents, but never in your car.

Upon delivery the Security Code has NOT been activated. So the radio functions as any other car radio, even in case of theft.

If the Security Code has been activated and the power supply is interrupted (e.g. if the set is stolen), the radio will not operate until the **correct** code has been entered.

If an **incorrect code** is entered, a warning tone will be heard and the radio mutes. A 'waiting period' of 1 minute then follows. Another code (even the correct code) cannot be entered until the waiting period is over. During and after the waiting period the radio is muted.

Each time an incorrect code is entered, the waiting period is doubled (2 min., 4 min., 8 min., 16 min. etc.). If the radio is switched off before the end of a waiting period, the same period will start all over again at the moment the radio is switched on.

This system acts as a deterrent to thieves, as there are 10 000 possible codes.

Stick the supplied Security Code warning stickers on your windscreen.

ACTIVATING THE SECURITY CODE

- While keeping the > button pressed, switch on the radio, and **keep the > button pressed** until you hear a beep.

The Security Code is now active.

If the Security Code is active the display briefly shows 'CODE' each time the radio is switched on.

IF THE POWER SUPPLY HAS BEEN INTERRUPTED ...

If the Security Code has been activated and the power supply has been interrupted, the radio will mute and the display shows 'CODE'. The correct code must be entered before the radio will function.

ENTERING THE CODE

- Enter the four-digit Security Code using the ⓪–⑨ digit buttons on the keyboard.

If you accidently enter the wrong code, switch off the set and then switch on again. You can now enter the correct code.

- Press the Ⓔ button.

If the **correct code** was entered, you will hear a confirmation beep and the radio will function normally.

If however an **incorrect code** had been entered, you will hear a warning tone. The display shows 'Err' flashing.
You must now wait for 1 minute before another code can be entered.

During this waiting period the radio refuses all codes, even the correct code.

Do **not** switch off the radio during the waiting period! The waiting time will start all over again when the set is switched on.

After the waiting period is over the display shows 'CODE'. You can then enter the correct code (as described above).

If again an incorrect code is entered after 1 minute, **a doubled waiting period** of 2 minutes will follow and so on.

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DEACTIVATING THE SECURITY CODE

- While keeping the > button pressed, switch on the radio, and **keep the > button pressed** until the display shows 'CODE'.
- Enter the code (using the ⓪–⑨ digit buttons and the Ⓔ button) as described in 'ENTERING THE CODE'.

You will hear **two** beeps indicating that the Security Code is deactivated.

If an incorrect code is entered you have to follow the same procedure as described in 'ENTERING THE CODE'.

IN CASE OF REPAIR

If the radio has to be repaired by your dealer or a service agency, you are requested to proceed as follows:

a Deactivate the Security Code as described above.
or

b Write the Security Code of the radio (four-figure number) on a label and attach it to the housing.
After repair **remove the label** from the housing.

Refer to the illustrations on pages 3 and 4 while reading these instructions.

GENERAL

Remove the 'passport' from the housing before mounting the radio.

Voltage and polarity: The radio has to be connected to a 12 V battery with negative terminal to earth (car chassis).

Warning: To prevent short circuiting, disconnect the negative car battery terminal until the radio has been mounted and connected.

For many cars, mounting kits with specific instructions are available. Consult your dealer for further information.

Aerial

The choice of aerial depends on the type of car. Position the aerial as far as possible from the ignition assembly. The aerial earthing bar or strap must contact clean metal. Protect this contact against corrosion with silicone grease or another rust preventer.

Loudspeakers

You can connect either two or four loudspeakers to this car radio.

Only use loudspeakers having an impedance of 4 ohms.

The sound distribution is improved when two speakers are mounted in the front and two in the rear of the car.

Preferably mount speakers in positions giving good acoustics. For example: left and right in dashboard; as high as possible in the doors; or on the rear parcel shelf.

MOUNTING METAL SLEEVE

- Insert metal sleeve into the opening (182 × 53 mm) of the dashboard or console (Fig. 6).
- Fix metal sleeve to the dashboard/console by pressing all metal tags outwards using a screwdriver (Fig. 7).
- Break off those tags which cannot be pressed outwards.

REAR SUPPORT

Depending on car mounting situation, a rear support may be necessary. Certain cars are provided with a rear support hole. For other cars, a rear support bracket should be fitted. A suitable bracket is available from your dealer under type number 22 EA 1109.

CONNECTIONS (Fig. 2)

[1] Aerial socket
[2] Threaded stud for rear support
[3] Line-out multi-socket
[4] Loudspeaker multi-socket
[5] Loudspeaker multi-plug
[6] Power supply multi-socket
[7] Power supply multi-plug
[8] 12 V supply lead (red)
[9] Earth lead (brown)
[10] Connection for night illumination
[11] Switched 12 V for electronic aerial or the relay of an automatic motor aerial
[12] Permanent 12 V supply lead (yellow/red)
[13] Switched 12 V for remote supply of a booster/amplifier or an active loudspeaker

Many makes of car are equipped with a car radio connector. For these makes, specific adapter cables are available. Consult your dealer for the correct type.

The multi-plugs for loudspeakers [5] and power supply [7] should only be mounted if your car does not have a suitable connector or if no suitable adapter cable is available.

- **Loudspeakers:** When connecting the loudspeakers, ensure that marked terminals or cores are fitted to the corresponding terminals of multi-plug [5] so that all loudspeakers are in phase.

– **Four loudspeakers** (4 × 7 W): The connecting plug [5] is marked with a plus sign and the odd numbers **1**, **3**, **5** and **7** for the phase leads (Fig. 3). The return leads of the plug are marked with a minus sign and the even numbers **2**, **4**, **6** and **8**.

FL = Front Left
FR = Front Right
RL = Rear Left
RR = Rear Right

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– **Two loudspeakers** (2 × 20 W): Connect the leads of the right loudspeaker (Fig. 4) to terminals **3** (phase) and **2** (return) and the leads of the left loudspeaker to terminals **5** (phase) and **8** (return).

Do not connect any of the loudspeaker leads to earth!
Do not connect a booster/amplifier directly to the loudspeaker outputs!
Do not connect loudspeakers via an external fader!

- Connect loudspeaker multi-plug [5] to loudspeaker multi-socket [4].
- **Aerial:** Insert aerial plug into aerial socket [1].
- **Power supply:** Consult the electric diagram of the car before connecting the red supply lead [8]. Possible connecting points:
  - the connecting block in the radio compartment (if present);
  - the accessory contact of the ignition switch;
  - a contact in the fuse-box with permanent voltage;
  - directly to the car battery.

If the supply lead is directly connected to the car battery or another terminal with permanent voltage, the permanent supply lead [12] (yellow/red) need not be used. In that case the next • can be skipped.

- **Permanent supply lead:** Connect lead [12] (yellow/red) to a point of permanent supply. This supply is needed for the internal clock and to avoid entering the Security Code each time you switch on the radio.

The voltage on this point must never be interrupted, not even when starting or switching off the engine.
Possible connecting points:
- supply lead for interior car lighting;
- supply lead for clock;
- directly to the car battery.

- **Earth:** Connect the earth lead [9] (brown) to a suitable earthing point on the car body.

Additional connections

If you use any of the following connections, first attach the lead to one of the small female connectors (supplied) and insert it into the relevant hole of the multi-plug [7]. See Fig. 2.

- For **night illumination** of the radio use connection [10]. Connect the other end of the lead to the dashboard illumination wiring or to a supply switched by the ignition.

- **Electronic aerial:** An electronic aerial or the control lead for the relay of an automatic motor aerial can be connected to [11].
Do not use this connection point for supply of the aerial motor!

- The remote supply lead of a booster/amplifier or an active loudspeaker can be connected to [13].

- Connect power supply multi-plug [7] to power-supply multi-socket [6].

- **Line output:** A booster/amplifier or an equalizer with line input can be connected to the line-out multi-socket [3]. Use the adapter cable 22 EA 6164 which is available from your dealer. To minimize interference, the same earthing point for radio and booster/amplifier should be used.

MOUNTING THE RADIO (Fig. 8)

- Screw rubber buffer ⓐ onto rear fixing stud [2] (Fig. 2).
- Slide the radio through the metal sleeve until the springs at either side of the radio snap into the openings of the sleeve.

- Finally reconnect the negative battery terminal.

REMOVING THE RADIO

- Remove the blanking plates ⓑ with a screwdriver (Fig. 8).
- Unlock the radio using the two steel U-shaped brackets ⓓ supplied as auxiliary tools (Fig. 9). Insert both brackets into the lateral holes ⓒ until they lock. The set can now be removed from the mounting aperture.

Note: Keep both U-shaped brackets ⓓ, but preferably not in your car in view of rattling and possible theft.

INTERFERENCE SUPPRESSION

The degree of interference and hence suppression depends upon the make and type of car. Generally speaking the following may serve as a guideline.

Ignition coil: Insert a 2.2 µF capacitor between +, BAT, 15 or SW terminal of the ignition coil and earth. Also fit a braided strap between engine block and mounting screw of the coil, if coil is

located on mudguard. Where an electronic ignition system is used consult your dealer.
Alternator: Insert a 2.2 µF parallel capacitor between the + terminal of the alternator and earth.
Earth strap: Fit an earth strap between bonnet and body at the aerial side.
Spark plugs: In the case of interference caused by the engine, use 5 kΩ plug-in suppressors on the spark plugs.
Voltage regulator: Insert a 2.2 µF parallel capacitor between B+, BAT or 30 terminal of the voltage regulator and earth.

REPLACING FUSE (Fig. 5)

- Pull fuse-link out of connecting block.
- Replace with a 7.5 A blade type.

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GUARANTEE AND SERVICE FOR UNITED KINGDOM

Philips sell this product subject to the understanding that if any defect in manufacture or material shall appear in it within 12 months from the date of consumer sale, the dealer from whom the product was purchased will arrange for such defect to be rectified without charge, provided:

1. Reasonable evidence is supplied that the product was purchased within 12 months prior to the date of claim.
2. The defect is not due to use of the product for other than domestic purposes, or on an incorrect voltage, or contrary to the Company's operating instructions, or to accidental damage (whether in transit or otherwise), misuse, neglect or inexpert repair.

Products sent for service should be adequately packed as no liability can be accepted for damage or loss in transit, and name and address must be enclosed

Facts about free service

When service is required, apply to the dealer from whom the product was purchased. Should any difficulty be experienced in obtaining service, e.g. in the event of the dealer having ceased to trade, you are advised to contact Philips Service.

These statements do not affect the statutory rights of a consumer

If you have any questions which your dealer cannot answer, please write to: ***Philips Consumer Relations, P.O. Box 298, 420 London Road, CROYDON CR9 3QR,***
or ☎ ***(01) 689 2166 Consumer Advice.***
Please retain this card. Produce if service is required.

GUARANTEE AND SERVICE VALID FOR IRELAND

This apparatus is made of high quality material and great care has been taken in its manufacture.
Philips, therefore, give you a guarantee on parts against failures arising from faulty workmanship or material for 12 months after date of purchase. This guarantee is valid on the condition that this certificate is completed and signed immediately on delivery of the apparatus. In case of failure ask your dealer for further information.
If you have any questions which your dealer cannot answer, you may apply to ***Philips Electrical (Ireland) Ltd., Service Department, Newstead, Clonskeagh, DUBLIN 14 - ☎ 69 33 55.***

GUARANTEE AND SERVICE VALID FOR AUSTRALIA

The benefits given to the purchaser by this warranty are in addition to all other rights and remedies, which under the Trade Practices Act or other Commonwealth or State law the purchaser or owner has in respect of the product.
Any defect in the product or in any of its ancillary equipment supplied by Philips Consumer Products which is due to either faulty material or workmanship and which becomes apparent within the period of 12 months from the date of installation, will be rectified without charge for parts or labour supplied at the premises of any Philips Service Centre or authorised Philips Car Radio Centre provided that

a. The requisite information has been accurately completed on this form (which must accompany the product).
b. The product has not at any time been serviced other than by a Philips Service Centre or an authorised Philips Car Radio Centre, nor altered or tampered with in any way whatsoever and the defect is not due to misuse, negligence or other similar cause or electrical interference caused by the vehicle.
c. The cost of transportation both ways to Philips Service Centres or authorised Philips Car Radio Centres and any additional cost of removing any other equipment not ancillary to the product is paid by the claimant.
d. Any apparent defect or inadequacy in performance shall not have been caused by any ancillary equipment not supplied by Philips Consumer Products.
e. Any apparent fault shall not have been caused by faulty installation or the vehicle (including its electrical system).

Note: Should service be required, it is recommended that the product and car be made available to the authorised Philips Car Radio Centre.

Philips Consumer Products Division, Technology Park, Figtree Drive, Australia Centre, HOMEBUSH 2140, New South Wales

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GARANTIE ET SERVICE APRÈS-VENTE EN FRANCE

Cet appareil a été fabriqué avec le souci de vous donner entière satisfaction. **PHILIPS** fournira gratuitement au vendeur les pièces détachées nécessaires à sa réparation pendant les périodes suivantes, chacune prenant effet à compter de la date de vente:

- 6 mois pour les magnétophones à cassettes portatifs, les récepteurs radio portatifs, les radiocassettes, les radio-réveils et les électrophones;
- 12 mois pour les radiocassettes équipés de la fonction Compact Disc et les baladeurs Compact Disc;
- 12 mois pour les récepteurs radio destinés à être installés à poste fixe dans un véhicule automobile;
- 12 mois pour les appareils entrant dans la composition d'une chaîne électro-acoustique, y compris les chaînes compactes stationnaires équipés d'au moins deux sources sonores;

sauf si la détérioration résulte d'une cause étrangère à l'appareil ou du non respect des prescriptions d'utilisation.
Vous bénéficierez en tout état de cause des dispositions des art. 1641 et suivants du Code Civil relatifs à la garantie légale.
Pour tout conseil ou intervention, adressez-vous à votre vendeur.
Pour tout renseignement complémentaire, vous pouvez vous adresser à la succursale Philips la plus proche.
Soucieux d'améliorer continuellement la qualité de nos produits, nous nous réservons le droit d'en modifier à tout moment les caractéristiques.

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Informations Consommateurs: ☎ (1) 42 04 25 60

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Trotz aller Sorgfalt ist das Auftreten von Fehlern nicht auszuschließen. Ihr Partner für die Behebung derartiger Fehler ist Ihr Fachhändler, bei dem das Gerät erworben wurde. Falls ein Reklamationsfall eintritt, wenden Sie sich bitte unter Vorlage des Einkaufsbeleges und des Gerätepasses an Ihren Fachhändler.

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Pour les conditions de garantie en Belgique et Luxembourg veuillez vous référer à la carte de garantie que le revendeur doit vous remettre au moment de l'achat.

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Si après l'achat de l'un ou l'autre appareil Philips vous avez des problèmes concernant par exemple la garantie, le fonctionnement ou l'utilisation de ces appareils et que le distributeur qui vous a vendu ces appareils éprouve des difficultés pour les résoudre, prenez contact, soit par téléphone, soit par écrit avec notre service
'Contact Clientèle', Place de Brouckère 2, 1000 - BRUXELLES ☎ 02/211 91 11

GARANTIE EN SERVICE IN BELGIË EN LUXEMBURG

In België en Luxemburg gelden uitsluitend de garantiebepalingen zoals die in het via uw handelaar apart verstrekte garantiebewijs staan aangegeven.

● ***Voor België***

Indien u na de aankoop van een of ander Philips apparaat problemen heeft met bijv. de waarborg, de werking, of het gebruik ervan, en indien de verdeler die u deze apparaten verkocht heeft moeilijkheden ondervindt om deze problemen op te lossen, stelt u zich dan telefonisch of schriftelijk in verbinding met onze dienst ***'Klanten Kontakt', de Brouckèreplein 2, 1000 - BRUSSEL, ☎ 02/211 91 11***

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